The Lepidopterists' News

THE MONTHLY NEWSLETTER OF THE LEPIDOPTERISTS' SOCIETY

c/o Osborn Zoological Laboratory, Yale University, New Haven 11, Connecticut, U.S.A.

Editor - C. L. REMINGTON • *Assoc. Editor* - J. E. REMINGTON

SOME NEEDS OF NORTH AMERICAN LEPIDOPTEROLOGY

In founding the Lepidopterists' Society and the News in 1947, H.K. Clench and the writer set out to meet the need for a free interchange of knowledge among the great number of people in all parts of the world who devote some time to the study of moths and butterflies. With enthusiastic cooperation from a multitude of members the course of progress has been relatively smooth and satisfactorily rapid. Several other projects which North American lepidopterists have needed and awaited for too many years need to be considered now.

First, the time is ripe for the comprehensive cooperative work on North American butterflies which was tentatively outlined by F. Martin Brown in the October News and which is now a well-established project. Its progress will be reported frequently in the News. Two primary needs are for accurate field notes and funds for colored plates.

Second, there is a pressing need for a complete bibliographical catalogue of North American Lepidoptera. The last one was published many years ago and has long been so out-of-date as to be of very limited value. A work comparable to the nearly completed catalogue of Hymenoptera would be used widely as soon as published. It would, of course, be a cooperative work. The Lep. Soc. could sponsor such an undertaking and have it ready for publication, probably within four years, if funds for publication could be obtained or guaranteed. Until this support becomes certain, there is no use in launching the plan.

Third, a reasonably comprehensive book on American moths, profusely illustrated with colored plates, has been needed for a long time. Holland's Moth Book, published in 1903, is so out-of-date and so filled with original errors that it no longer is very useful. A current, accurate work of the same sort would immediately be in great demand.

Fourth, a centrally-coordinated, vigorously prosecuted study of butterfly and moth migration is now assured of significant geographic coverage by the large membership of the Lep. Soc. A program somewhat like bird banding needs to be planned and launched.

Fifth, a Lep. Soc. library should be established which would send out to members books, periodicals, and reprints for their use without a loan fee.

The News editors solicit correspondence on any of these matters.

C.L. Remington

THE BUTTERFLIES NORTH OF MEXICO

Current Developments

At the time of writing, cards are still being received from Society members who wish to cooperate on the project. Already the response has been enthusiastically affirmative.

The following appointments have been made thus far. The others will be announced from time to time, and in some cases modifications may be necessary before the final writing begins for the respective sections.

SENIOR COLLABORATORS

Danaidae -- Dr. Richard M. Fox, Jr.
Dept. of Entomology
Carnegie Museum
Pittsburg 13, Pa.

Satyridae -- F. Martin Brown
Fountain Valley School
Colorado Springs, Colo.

Pieridae -- Dr. Alexander B. Klots
Dept. of Biology
17 Lexington Avenue
New York 10, N.Y.

AUTHORS

All Danaidae -- Dr. R.M. Fox, Jr.

Minois -- F. Martin Brown

Megathymus -- P.S. Remington, Jr.

A tentative schedule has been prepared to plan the dates of final manuscripts and of actual publication of each fascicle.

Information wanted:

Dr. Fox, who is the specialist preparing the manuscript for the DANAIDAE, needs information about the occurrence of species in the genus Danaus in the United States. Will all collaborators send him the data that they have available. Especially wanted are breeding localities for berenice and records of strays in the non-breeding areas, migration data on plexippus, parasite and predator data. Has anyone definite data on bird predators on Danaus? Dr. Fox wants to see material from the south Atlantic coastal area and from the Gulf coastal area, especially from off-shore islands. Please communicate your information directly to Dr. Fox.

F.M. Brown
Coordinating Editor

PRINCIPLES OF TAXONOMY- V. NATURAL AND ARTIFICIAL CLASSIFICATION

The first classifiers of plants and animals probably sought no more than a simple system for conveniently sorting the living forms into readily recognizable groups. Even today, some of these wholly superficial groupings are to be found in recent books written for popular consumption. A conspicuous example is a widely circulated book on American wild flowers in which all red flowers are grouped together, all blue-flowered plants, all yellow-flowered plants, and so on. Various writers prior to Carl von Linné began to assemble plants and animals into a "natural" system. By "natural" they meant some vague concept of relationships presumed to have originated when, according to Biblical statements, God created all species of living things and placed them in the Garden of Eden. Some of the characters binding "natural" groups were the number of stamens in flowers, the absolute presence or absence of wings, the number of pairs of wings, the presence or absence of leg-like appendages, and so on.

The possibility of the appearance of new species, after the original Biblical creation, became well established in the first half of the 19th Century and was perhaps most advanced by the brilliant French zoologist, Jean Baptiste Lamarck. It was believed that the environment changed the individuals of a species and that these changes could then be inherited by the offspring and fixed in the species. Thus, two diverging populations would be molded by their different environments and finally become separate species. This concept was nebulous and unconvincing until the epochal work of Charles Darwin, the first of which appeared in 1858. Darwin crystallized a clear basis for considering a system of classification truly "natural". Since then taxonomists have been refining and extending its application. It is of particular interest to note that a surprisingly large proportion of the classification of Linné and his best successor, Anders Iahan Retzius, remains valid when measured by modern "natural" classifiers.

In the present-day sense NATURAL RELATIONSHIPS ARE THOSE BASED ON COMMON ANCESTRY -- the sort of arrangement used for human family trees or lineage charts. There are several means by which evolution (and therefore common ancestries) may be studied. Especially dependable is evidence obtained from: 1) comparisons of structure; 2) tracing development in the embryo; 3) fossil specimens; and 4) genetic studies of cross-breeding. Where two or more lines of approach point to the same answer it is reasonably certain to be correct. Some examples of natural characters will elucidate this discussion. Feathers are characteristic of all members of the Class Aves (birds), and no other animals have true feathers. Among the animals without backbones (invertebrates), the possession of aerial wings invariably places the flier in the Class Insecta, although some insects do not have wings. All butterfly larvae having osmeteria (special strong-smelling protrusible filaments) are descended from a common ancestor and therefore belong to the broad family Papilionidae (swallowtails and allies).

In modern usage ARTIFICIAL CLASSIFICATION GIVES A GROUPING OF SPECIES WHICH DO NOT HAVE A COMMON ANCESTOR DIFFERENT FROM THAT OF ALL OTHER SPECIES. It must be apparent to anyone that the grouping of all flying animals would be artificial, since bats, birds, and insects are obviously unrelated. Similarly the assembling of all insects with scales on the wings would be artificial, since mosquitoes, butterflies and moths, some weevils, bark lice and other unrelated groups have wings with scales. One of the most extensively used artificial groupings was the division of the Lepidoptera into Diurnals and Nocturnals; actually, hundreds or perhaps thousands of species of moths are normally diurnal (day-flying). A common artificial distinction between butterflies and moths is the fallacy that moths have thicker bodies; of course Geometridae and many other moths have slender bodies, whereas the Megathymidae and other skippers have heavy bodies.

Following are samples of a hypothetical artifical system and an actual natural system:

ARTIFICIAL SYSTEM

1. Family OCULIDAE - having "eye" spots.
   - Vanessa io
   - Minois alope
   - Automeris io
   - Strymon cecrops
   - larva of Papilio glaucus
   - larva of Pholus achemon

2. Family CAUDIDAE - having tailed hindwings.
   - Actias luna
   - Papilio machaon
   - Graellsia isabelae
   - Goniurus proteus
   - Strymon cecrops

NATURAL SYSTEM

1. Family LIBYTHEIDAE - palpi long (snout).
   - Libythea celtis
   - Libytheana bachmanii
   - Libytheana motya

2. Family SATYRIDAE - fore legs always degenerate.
   - Minois alope
   - Lethe portlandia
   - Pararge megaera
   - Erebia niphonica
   - Oeneis norna

3. Family PTEROPHORIDAE - hindwings deeply 3-cleft.
   - Stenoptilia zophodadactyle
   - Oxyptilus periscedactylus
   - Oidaematophilus monodactylus

Natural classification can only be based on PHYLOGENY, or ancestry. Although the reasons for phylogenetic arrangement of insects may not be readily visible to the non-specialist, we hope that no News reader will classify his specimens by grouping all white butterflies together or all hairy caterpillars together or all maple tree feeders together without realizing the phylogenetic artificiality of such an arrangement.

C.L. Remington

THE 1948 MEETING OF THE E.S.A.

The annual meeting of the Entomological Society of America for 1948 was held in New York City on December 13-16. As usual, the E.S.A. held its meeting jointly with the American Association of Economic Entomologists. Several papers on the program were of special interest to lepidopterists. Dr. William Hovanitz, of Wayne University, spoke on "Geographical differences in food specificity of butterflies", presenting one aspect of his studies, primarily on the northern species of Colias. Staley D. Beck, J.H. Lilly, and J.F. Stauffer, all of the University of Wisconsin, reported on "Nutrition of the European Corn Borer I. Development of a satisfactory purified diet for larval growth." If such artificial rearing media can be devised for larvae which normally feed on living plants, a great boost will be given to laboratory studies on butterflies and moths. Dr. Charles D. Michener, of the University of Kansas, discussed "Parallel evolution in saturniid moths." He illustrated his paper with the phylogenetic tree of the genera and subgenera of New World Saturniidae, a tree giving the results of his recent generic revision of Saturniidae. He showed the independent origin of some characters of saturniids in small parts of several unrelated branches of the family -- characters which now prove to be untrue guides to classification, although early workers had leaned heavily on them.

Among other papers which may interest News readers was a report by Dr. Henry K. Townes, of North Carolina State College, on the cooperative catalogue of the Nearctic Hymenoptera. With a number of specialists preparing different sections of this elaborate and invaluable catalogue, the manuscript appears to be nearing completion rapidly. The project has been in progress for a surprisingly short time. It reminds us of the urgent need for a complete catalogue of Nearctic Lepidoptera and also reminds us that such a job almost unavoidably must be undertaken by several cooperating authorities, rather than a single author.

Dr. Curtis W. Sabrosky, of the U.S. Bureau of Entomology & Plant Quarantine, spoke forcefully about the recent activities of the International Congress of Zoology in completely revising the International Rules of Zoological Nomenclature. Dr. Sabrosky criticized severely the apparently dictatorial and unannounced actions of Mr. Hemming, secretary of the International Commission, during the Paris meetings. There is clearly an overwhelming body of opinion, at least in the U.S.A., in opposition to the undemocratic manner in which the new Rules were forced through, and it is to be hoped that opportunity for wide consideration of the wording of the new Rules be permitted before they are issued as valid. Obviously, these "Rules" have no legal standing and must depend on general acclamation for their support and this support in turn depends on the soundness of the Rules from the viewpoint of as many interested taxonomists as possible.

At the E.S.A. business meeting there were reports on the recent Zoological Congress in Paris and Entomological Congress in Stockholm. Comments on the superb planning and administration of the Stockholm Congress were most enthusiastic. Quite a different view on the Paris meetings was expressed. The establishment of the new Journal of Insect Physiology was announced. The 1949 meetings will be in Tampa, Fla., during the 3rd week in December.

At the meetings this year we saw the following Lep. Soc. members and undoubtedly missed several others: Dr. A.E. Brower, Prof. E.O. Essig, Dr. W. Hovanitz, Dr. C.D. Michener, and Dr. Jose Oiticica Fº.

The ENTOMOLOGICAL SOCIETY OF AMERICA is the one correlating society for all North American entomologists. The annual dues of $5.00 go mainly for a subscription to the Society's Annals, probably unexcelled by any other entomological journal in the world. We hope that all Lepidopterists' Society members in America who are seriously interested in research will see the value in membership in the E.S.A. All who wish to join the E.S.A. should write to the Lep. News editor for a membership application form.

C.L.R.

NOMENCLATURE NOTES

Referring to the information in the News for April, 1948, p.46, about the replacing by CTENUCHIDAE Kirby of the family names SYNTOMIDAE, AMATIDAE or EUCHROMIIDAE, it must be pointed out that the law of priority only concerns specific and generic names (Art.25 of the Rules) and accordingly it is irrelevant where family names are concerned. On the other hand, Art. 4 of the same Rules says: "The name of a family is formed by adding...to the stem of the name of its type genus". The oldest and best known genus of the family in question is Syntomis Ochsenheimer 1808 (= Amata Fabricius 1807); as selecting types by subsequent designation (see Recommendations, Art. 30 of the Rules) does not apply to families, it is reasonable to admit that the oldest genus is the type genus. The correct family name must, in the present case, be accordingly AMATIDAE.

S.G. Kiriakoff, Ghent, Belgium

Concerning the generic name of Limentis (Lep. News, vol.2: p.76), I have the following opinion. For the sibylla group (I think it must be called the camilla group in the strict sense), there is a good generic name, Parathyma Moore (Lep. Ind., vol.3: p.174, 1898), the type of which is sulpitia Cramer, an oriental species. Though sulpitia has been treated by many authorities as a species of Pantoporia auct., it is undoubtedly a member of the camilla group by the characters in venation, markings, as well as in male genital apparatus, and can never belong to Pantoporia auct. The following literature gives a useful key to this problem:

Hemming, F., 1934, "The Generic names of the Holarctic Butterflies", vol.1. London. (esp. pp.87-88).

Sibatani, A., 1943, "Über Einige Nymphaliden aus Nippon", Trans. Kansai Ent. Soc., vol. 13: pp.12-24, pl.1. (esp. pp.18-21).

Takashi Shirôzu, Fukuoka, Japan.

SUMMARY OF "A REVISION OF THE AMBER LEPIDOPTERA" BY N.J. KUSNEZOV*

The Baltic Amber has provided entomologists with the only large series of perfectly preserved specimens of very ancient insects. The age has usually been considered to be Oligocene (perhaps 40 million years old), but Kusnezov believed it to be of "the Eocene epoch at least" (about 60 million years old), because the only Baltic Amber in its original matrix is Eocene and all amber in Oligocene beds was secondarily deposited there. The Baltic Amber is presumed to be fossilized resin from pine trees which occurred in north-central Europe. Its entomological significance comes from the fact that great numbers of small insects were trapped in the sticky resin and became embedded in the lumps. The amber is fairly clear so that it is possible to examine microscopically every tiny hair on many of the insects. These scientific treasures, "mounted" by Nature, have made possible the discovery of many significant facts, such as the presence at least 40 million years ago of certain ants differing in no perceptible way from species living today. On the other hand, several extinct families of spiders have been found in the amber beside other representatives belonging to living genera.

The Lepidoptera of the Baltic Amber had been studied to some degree by earlier workers, but Kusnezov obtained a fairly extensive unstudied collection and considerably extended the knowledge of the fossil moths (no butterflies were in his collection). He described as new all the following genera and species, but noted that all the new genera are "rather closely related to the recent genera" of the same families:

ERIOCRANIIDAE
Electrocrania immensipalpa

TINEIDAE
Tillyardinea eocenica
Martynea rebeli
Dysmasiites carpenteri
Scardiites meyricki
Proscardiites martynovi
Palaeoscardiites mordvilkoi
Glessoscardia gerasimovi

LYONETIIDAE
Prolyonetia cockerelli

OECOPHORIDAE
Glesseumeyrickia henrikseni
Paraborkhausenites innominatus

GELECHIIDAE
Oegoconiites borijacki
Symmocites rohdendorfi
Gelechiodeorum 2 spp.

TORTRICIDAE
Electresia zalesskii

PYRALIDIDAE
Glendotricha olgae

It is striking to note the prevalence of primitive groups. While the Baltic Amber rarely preserved even medium-sized insects, this would not alone account for the great preponderance of the "Micros", because there are very many sufficiently tiny Geometridae, Phalaenidae, Arctiidae, and Notodontidae. Their absence might be explained by their rarity in the pine forest at that time, their habits which might not bring them into contact with the gummy pre-Amber, or their rarity because they were new evolutionary lines not yet diversified and abundant.

That the abundance of "Micros" was not only found in Kusnezov's material is shown by the following list of Baltic Amber species which Kusnezov compiled from preceding papers as well as his own:

Micropterygidae -	1
Eriocraniidae -	2
Tineidae -	10
Incurvariidae -	1
Adelidae -	3
Lyonetiidae -	1
Oecophoridae -	14
Gelechiidae -	4
Hyponomeutidae -	7
Eucosmidae -	1
Phaloniidae -	2
Pyralididae -	1
Psychidae -	1
Lycaenidae -	1

Presuming that the Lepidoptera appeared before the wide diversification of the flowering plants, Kusnezov reasoned that the larvae of the earliest moths fed on mosses, fungi, dead vegetable material, and the inside of stems. His evolutionary sequence was expressed thusly: "-- feeding on mosses(Micropterygidae), → on fungi (*Scardia*), → on vegetable detritus under tree bark, undoubtedly mixed with fungus mycelia (Oecophoridae, Aegeriidae), → within plant tissues deprived of chlorophyll (Cossidae), → mining in chlorophyll-iferous tissues (very many Tineodea), → free feeding on the latter (the greater part of the order with Noctuodea at the head)."

The text of this scholarly paper is followed by an extensive bibliography. The plates depict, perhaps as well as possible, the specimens studied. The main text is in Russian but there are several English summaries of the most important parts.

C.L. Remington

*135 pp., 31 pls. *Édition de L'Académie des Sciences de L'Urss*. Moscow, 1941.

TECHNIQUE NOTE

A collecting item worthy of mention is the butterfly collecting can. This valuable field device is merely a can with belt clip and hinge top soldered on, the outside dimensions being approximately 2½" x 3½" x 4". Inside of the can strips of paper 3½" wide are folded to form corrugations of the 4" depth of the can. About 50 such corrugations can be fitted to a can, the compartments so formed being able to hold many specimens during the day's collecting. The cans can easily be made from a used small cocoa or tin medicine can as a base, or they may be purchased at nominal cost from Bio-Metal Associates, P.O. Box 346, Beverly Hills, Calif.

R.H.T. Mattoni, Richmond, Calif.

JEANE DANIEL GUNDER (1888-1948)

This year has marked the passing of Jeane D. Gunder, former member of the Lorquin Entomological Society of Los Angeles, and known to many for his enthusiastic work in diurnal Lepidoptera. His death occurred at his home, 310 Linda Vista Ave., Pasadena, California, on November 17, 1948.

Jeane D. Gunder was born in New York City in 1888 but had lived in Pasadena for over 25 years prior to his death. His active interest in butterflies was dropped in 1935 when economic conditions forced him to give up his collection and enter a new business. In 1937 he sold his collection, of about 28,000 specimens, to the American Museum of Natural History in New York. His fine library was acquired by Cyril F. dos Passos.

Gunder's keen interest in butterflies led him to describe 212 species, races, forms and aberrations, which were presented in the leading American entomological journals. Aberrations were his principal interest for many years and his last work on these controversial "transition forms", as he called them, was of real importance. His most outstanding work was "The Genus Euphydryas of Boreal America" in 1929 and "North American Institutions Featuring Lepidoptera", 1929-30. At least six butterflies and two moths were named in his honor by leading lepidopterists during his entomological career. He is survived by his widow, Mrs. Fannie Gunder.

Lloyd M. Martin

JOHN A. COMSTOCK RETIRES

The Los Angeles County Museum has announced the retirement, on October 1, 1948, of Dr. John Adams Comstock. Dr. Comstock is best known to lepidopterists for his beautifully illustrated book: Butterflies of California (see review in Lep. News 1: p.38) and for his numerous unexcelled papers on the life histories of Lepidoptera of southwestern U.S.A. Dr. Comstock was Chief Curator of Natural Science at the museum at the time of his retirement. He had been at the Los Angeles County Museum for 20 years. Prior to that he was Director of the Southwest Museum for 6 years. Dr. Comstock was responsible for the assembling in the L.A. County Museum the most complete collection of California butterflies in existence. As its president for 20 years, Dr. Comstock has been the center of guidance of the vigorous Lorquin Entomological Society. He has also been a leader of the Southern California Academy of Sciences and over 50 years ago was an officer of the Chicago Entomological Society. Although his time has largely been devoted to biological sciences, he received the M.D. in 1915 and has practiced medicine intermittently since then.

Now having retired from professional duties, "Doc" expects no decrease in his investigations and papers on Lepidoptera, and as always, these papers will be superbly illustrated by his own paintings and drawings. He has retired to his carefully planned research center and home at Del Mar.

C.L.R.

FIELD NOTES

NOTES ON SOME MICHIGAN BUTTERFLIES.- The following notes are based on collecting around the author's home at Willow Run Village, near Ypsilanti, Michigan, during the past season (1948).

A rather curious courtship procedure was remarked for Pieris rapae. The seated female with wings flattened against the leaf, fore wings nearly covering hind wings, had her abdomen turned up in a nearly vertical position, angled from its base. The male hovered and fluttered about her, frequently walking on her outstretched wings, though apparently without attempting to couple. Without warning or apparent reason he suddenly ceased his attentions and flew away. The female remained for a moment, raised her wings, lowered her abdomen, and she too left. A similar fashion of holding the abdomen was noted in a resting female of P. protodice at the approach of a male, but he immediately left, and no further courtship activity ensued. Though my ignorance of the pertinent literature is great, I can recall no published mention of such activity, and indeed extremely little attention to courtship behavior, a phase of study which certainly deserves more observation.

On the 8th of July a worn female specimen of Echinargus (= Hemiargus auct.) isola alce (Edw.) was netted on clover in a large field. This is the second record of a specimen of this species taken in Michigan (the other having been taken in the southwestern part of the state (see Moore, 1939, Occ. Papers Mus. Zool. Univ. Michigan, no.411: 18; Remington, 1942, Bull. Brooklyn Ent. Soc. 37: 6-8). No further specimens were seen.

Seven specimens were taken, and two more seen, of the rare albinic form pallida Tutt of Thymelicus lineola Ochs., out of a conservatively estimated several tens of thousands of the normal form. Pallida was never observed in the areas where lineola was most common, but rather seemed to appear only in areas of lesser abundance. If this is not mere coincidence, and if the form is genetic in nature, as seems most probable, then there would appear to be some sort of selection at work.

Harry K. Clench

It is with pride that we have learned of the results of requests for aid which have appeared with the News from time to time. Herr Rudolf Künnert wrote gratefully from Wurzen, GERMANY, that his plea for living eggs of American Lepidoptera resulted in three shipments of eggs. This fall we sent out with the News a number of copies of a request for living pupae of certain moths needed by Alfred G. Sussman, of Harvard University, for research in susceptibility of Saturniidae and their relatives to a fungus which attacks insects. The prompt and generous response of several members materially expanded the value of his studies and resulted in his warm appreciation. Similarly, a number of advertisers on the "Notices by Members" page have written us in surprise at the large response received.

399. Anonymous, "Entomology" in "Northern Research Reports". Arctic, vol.1: p.137. 1948. Brief summary of Hovanitz' 1948 eco-genetical results along the Alaska highway discussing specifically Colias hecla and C. philodice.

400. Blackie, J.E.H., "Suburban Lepidoptera." Entomologist, vol.81: pp.207-208. Sept.1948. Attributes Lepidoptera scarcity around area south of Manchester to abundance of birds and industrial contamination of atmosphere.

401. Blackie, J.E.H., "The history, status and prospects in England of Coenonympha tullia Müller." Entomologist, vol.81:pp.229-235. Oct.1948. Records of former and present distribution, by counties. Butterfly in danger of extirpation from Britain.(P.B.)

402. Brown, F. Martin, "Taxonomy and Distribution of the Genus Pierella (Lepidoptera)." Annals Carnegie Museum, vol.31: pp.49-87, 11 figs. 8 Dec. 1948. Characterizes this genus of Satyridae, gives keys to the 13 spp. Discusses and briefly redescribes most spp., with distribution shown on useful maps; figures male genitalia of all spp. Concludes with check-list of spp. and list of author's records from Ecuador. Describes as new races: P. hyalinus fusimaculata (Trinidad), P. stollei boliviana (E. Bolivia), P. albofaciata decepta (E. Bolivia); describes 3 new "forms" of doubtful significance. On the whole a clear account of an entire genus.

403. Burns, A.N., "New Geographical Races of Australian Butterflies, with a Description of the Female, Larva, and Pupa of Pseudalmenus chlorinda barringtonensis Whs." Mem. Nat. Museum Victoria (Australia), no.15: pp.86-102, pls.3-8. Oct. 1947. Describes as new: Xenica klugi mulesi (Wardang Is., S. Austr.), Heteronympha cordace wilsoni (Dartmoor, s.w. Victoria), Trapezites sciron eremicola (Little Desert, Vict.), Ogyris amaryllis hopensis (Mt. Hope, Vict.), Candalides heathi doddi (Barrington Tops, N.S.W.). Fine photos of new & related races. Early stages and adults of barringtonensis (Lycaenidae) carefully described and figured.

404. Burns, A.N., "New Records of Lepidoptera from Victoria, with Notes on Some Rare Species." Mem. Nat. Museum Victoria, no.15: pp.103-108. Oct. 1947. New records of 5 spp. butterflies; 3 rare s pp. also recorded.

405. Burns, A.N., "Insects Collected at Mud Islands, Port Phillip Bay. November 30, 1945." Mem. Nat. Museum Victoria, no.15: pp.143-145. Oct. 1947. 2 spp. Lepidoptera recorded.

406. Burns, A.N. & C. Oke, "Insects and Arachnids" in "A Preliminary Report on the Biology and Ecology of the Snowy River Area in Northeastern Victoria." Mem. Nat. Museum Victoria, no.15: pp.168-171. Oct. 1947. Records 3 spp. moths, one probably a new Oxycanus (Hepialidae).

407. Clark, Austin H., "A new subspecies of Glaucopsyche lygdamus (Lepidoptera, Lycaenidae)." Proc. Ent. Soc. Wash., vol.50: pp.176-178. Oct. 1948. Describes as new Glaucopsyche lygdamus boydi (Ice Mountain, Hampshire Co., W. Virginia). Type in U.S.N.M. Distinguishes boydi from G. l. lygdamus but not from G. l. nittanyensis F. Chermock and G. l. jacki Stallings & Turner as implied by Article 25 of the Code. Authors cannot be too careful to comply with each requirement of the Code! G. l. boydi is listed from localities in Pa., W.Va., N.C., and Ark. in mountainous country in association with Carolina vetch (Vicia caroliniana), and will probably prove to be a synonym of nittanyensis. (C.F. dP.)

408. De Lucca, C., "Notes on some moths observed at Malta." Ent.Monthly Mag.,vol.84: p.192. Aug. 1948. New records: Nodaria nodosalis, Nycteola falsalis, Eublemma velox, Sterrha bractilinea, Eupithecia semigraphata,Horisme exoletata,Cucullia verbasci.(P.B.)

409. Deshpande, V.G. & K.R. Karandikar, "Insect pests of fruits and fruit-trees in the Deccan." Journ. Univ. Bombay, vol.16 (n.s.) (Science No.23): pp.1-14 (Biol. Sciences). Mar. 1948. Lists, for each species: nature of damage, locality and appearance, food plants, description and life history (brief), and control methods. Lepidoptera mentioned, and their food plants: Parasa lepida (mango, castor, pomegranate, wood apple, plantain, etc.); Euproctis scintillans (mango, castor, onions, sannhemp); Ophideres fullonica, O. materna, O. ancilla (orange, musumb, somelo, mango); Papilio demolius (citrus, bel, bavachi); Phyllocnistis citrella (citrus, bel); Arbela tetraonis (citrus, guava, mango, jak, ber, etc.); Virachola isocratis (citrus, pomegranate); Nephantis serinopa (cocoanut, other palms). (P.B.)

410. de Worms, C.G.M., "Drepana harpagula, Esp. (sicula, Hübner). A Short Review of its Past History and Present Status." Entomologist, vol.81: pp.205-206. Sept. 1948.

411. Evans, Eric, "Moths at a Suburban Station Lights in 1947." Entomologist, vol.81:pp.187-190. Aug.1948.

412. Ferrar, M.L., "The butterflies of the Andamans and Nicobars." Journ. Bombay Nat. Hist. Soc., vol.47: pp.470-491, 5 pls. 1948. Notes on the islands as collecting grounds. Annotated list of 268 forms of Rhopalocera. Plates illustrate forms of Troides (Papil.), Tros (Papil.), Euploea (Danaidae). (P.B.)

413. Field, William D., "The correct name for the North American butterfly variously called Nymphidia, Calephelis or Lephelisca (Lepidoptera, Riodinidae)." Proc. Ent. Soc. Wash., vol.50: pp.207-213. Nov.1948. Title somewhat misleading in that the paper does not relate to correct name of a butterfly but to correct generic name for the group of butterflies now listed under Calephelis. Author contends that Nymphidia Bdv. & Lec. is a synonym of Nymphidium Fabr., Calephelis Grote & Robinson a synonym of Emesis Fabr.; and that Lephelisca Barnes & Lindsey, with generotype Erycina virginiensis, is the valid name of the genus. Parenthetically, it seems to the reviewer that Nymphidia was not proposed by Boisduval and LeConte as a new generic name. (C.F.dP.)

414. Ford, E.B. & W.H. Dowdeswell, "The Genetics of Habit in the Genus Colias." Entomologist, vol.81: pp.209-212. Sept. 1948. Summarizes Hovanitz' paper (see Lep. News 2: p.69) and adds data on C. croceus in England. Urges more genetical study of habits.

415. Freeman, H.A., "Notes on Some North American Skippers, with the Description of a New Species from Kansas (Lepidoptera: Hesperiidae)." Ent. News, vol.59: pp.203-206. Oct. 1948. Describes as new species Atrytonopsis turneri (Barber Co., Kans.), which seems likely to fall to subspecific rank or less; differs from A. deva "in its smaller size"! Sinks Hesperia horus and H. metea belfragei as synonyms of H. metea licinus. New U.S.A. records: Atrytone eulogius and Cobalus percosius.

416. Freeman, T.N., "The Correction of a Genotypic Citation for the Genus Choristoneura Led." Ent. News, vol.59: p.202. Oct. 1948. Correct generotype is Tortrix diversana Hbn.

417. Fukaya, M., "The fundamental study on the forecast of rice borer, Chilo simplex Butler (first report)." (In Jap.). Matsumushi, vol.2: pp.9-14. June 1947 (T.S.)

418. Fukaya, M., "A fundamental study on the forecast of rice borer, Chilo simplex Butler (fourth report)." Nogaku Kenkyu, vol.37: pp.1-3. Sept. 1948. (T.S.)

419. Goodson, A.L., "New Varieties of Argynnis cydippe L. and Lycaena phlaeas L." Entomologist, vol.81: pp. 177-178. Aug. 1948. Describes as new Lycaena phlaeas race hibernica (Ireland) and aberration of cydippe.

420. Grison, P., "Effet du groupement sur la croissance des chenilles du Bombyx Cul-brun (Euproctis phaeorrhoea Don., Lep. Liparidae)." (In French). Comptes Rendus Soc. Biol., vol.142: pp.610-612. May 1948. Caterpillars of the brown-tail moth showed much more rapid growth when raised in groups of ten than when isolated. This effect was least in last larval stages and greatest just before hibernation (hibernates as larva). The larvae are normally gregarious. (P.B.)

421. Grison, P. & V. Labeyrie, "Effet de l'humidité sur le tissage des nids chez le Bombyx Cul-brun (Euproctis phaeorrhoea Don.)." (In French). Comptes Rendus Soc. Biol., vol.142: pp.609-610. May 1948. Larvae raised in closed chamber with humidity 100% fail to build usual nest of silk. (P.B.)

422. Lord, F.A., "Australian moth is world's largest." Journ. Ent. & Zool., vol.40: pp.45-46. Sept. 1948. Short semi-popular article about Coscinocera hercules. Record specimen had 14 inch span. Description of life history. Food plants: "Pana, Satinwood and Bleeding Heart trees". (P.B.)

423. Lord, F.A., "World's Largest Moth". Nat. Hist., vol.57: pp.450-451, ill. Dec. 1948. Summarizes knowledge of Coscinocera hercules, with photo of adult from New Guinea. Mentions specimen 14 inches wing spread, from Queensland, Australia.

424. Morley, A.M., "Aplasta ononaria in 1947." Entomologist, vol.81: pp.179-180. Aug. 1948.

425. Oke, Charles G., "Description of a new Species of Casemoth (Lepidoptera, Psychidae)." Mem. Nat. Museum Victoria, no.15: pp.178-179, pl.15. Oct. 1947. Describes as new: Plutorectis caespitosae (Mt. Hotham, Victoria). Type and some structures figured.

426. Petersen, Björn, "The Heat Rigor Temperature of Swedish Mountain Lepidoptera." (In English). Entomologisk Tidskrift, vol.69: pp.135-141. 5 Aug. 1948. Mean heat rigor temp. of diurnals 48° C., of nocturnals 43°. Nocturnals from open habitats, esp. swamps, able to stand higher temp. than those from wooded habitats. Cold rigor temps. correlate positively with heat rigor temps. Table gives statistics on 13 spp. of butterflies and 18 of moths from Sweden.

427. Picard, J., "Notes sur les Hesperiidae Pyrginae des régions palearctiques. Tribes des Erynnidi, Carcharodidi et Pyrgidi." (In French). Bull. Soc. Ent. France, vol.52: pp.129-134. Oct. 1948. Describes briefly each palearctic genus in these tribes and lists the palearctic species. Describes as new genus PLATYGNATHA (type: Pyrgus? phlomidi). (P.B.)

428. Ribeiro, B.L., "Contribuçao para o conhecimento da bionomia de 'Rothschildia aurata' (Cramer, 1775) (Lepidoptera, Saturnidae)." (In Portuguese). Revista Brasiliero Biol., vol.8: pp.127-141, 4 figs. Apr. 1948. Covers following: host plants (Ricinus communis, Chorisia speciosa, Fagara chiloperoni, Anacardium occidentale, Morus alba, Spondia lutea); length of adult life; time of oviposition and number of ova; description of all stages and cocoon; duration of each developmental stage; sex ratio. Figs. of larva, cocoon, pupa, adult. Apparently excellent life history study. (P.B.)

429. Russell, Archibald G.B., "A Plusia New to Britain." Entomologist, vol.81: pp.201-202, pl.I: figs. 1-5. Sept. 1948. P. limbirena (of E. Africa and India) taken at light in England. Good photos of P. limbirena, P. furcifera, P. ogorana, P. aenescens.

430. Russell, A.G.B., "Some notable visitors to light at Swanage in 1947." Entomologist, vol.81: pp.225-227. Oct. 1948. Records of moths. (P.B.)

431. Sankey, J.H.P., "Observations on the biology of Hepialus lupulinus L. (Lep.)." Ent. Monthly Mag., vol.84: pp.175-177. Aug. 1948. Records of emergence, flight, oviposition, hatching, larval habits. Foodplant: Fragaria. No control methods seem possible. (P.B.)

432. Sevastopulo, D.G., "The early stages of Indian Lepidoptera. Part XIX." Journ. Bombay Nat. Hist. Soc., vol.47: pp.197-219. 1947. Complete stages of: Papilio helenus (Citrus spp. and other Rutaceae); Panaera metallica (Sphingidae) (various arums); Rhegastis aurifera (Sphingidae) (Virginia Creeper). Gives partial life histories of 5 Papilio, 3 Lymantriidae, 1 Lasiocampidae, 2 Drepanidae, 1 Saturniidae, 3 Sphingidae, 5 "Noctuidae", 3 Geometridae, 1 Pyralidae. (P.B.)

433. Sevastopulo, D.G., "The early stages of Indian Lepidoptera. Part XX." Journ. Bombay Nat. Hist. Soc., vol.47: pp.458-469. 1948. Complete stages of: Leucania irregularis (Noctuidae)(grasses); Comibaena cassidara (Geometridae)(Ziziphus jujuba, Lagerstroemia indica, Ixora sp.). Partial life histories of 4 Papilionidae, 3 Pieridae, 2 Hesperiidae, 1 Lymantriidae, 7 "Noctuidae", 1 Geometridae, 3 Pyralidae. (P.B.)

434. Smith, L.M. & F.M. Summers, "Propagation of the oriental fruit moth under central California conditions." Hilgardia, vol.18: pp.369-387. Sept. 1948. Study of the reproduction of Grapholitha molesta in the central valley country of California, including mating behavior, oviposition (general habits, effect of weather differences between stocks from different localities), and viability of eggs. Concluded that hot, dry weather of this county does not interfere with propagation of the species. Races from different localities differed in date of maximum oviposition, number and viability of eggs laid. (P.B.)

435. Takahashi, I., "Note on capture of Argynnis hyperbius Johan. in Akita Pref., N. Jap. (Nymphal.)." (In Japanese). Trans. Tohoku Ent. Soc., no.5: p.20. Feb. 1948. (T.S.)

436. Tanaka, T., "Note on Papilio helenus nicconicolens But. (Papilion.)." (In Japanese). Coll. and Breed., vol.10: p.230. Aug. 1948.

437. Teale, Edwin Way, "Butterfly botanist." Nat. History, vol.57: p.325, ill. Sept. 1948. On Speyeria cybele. 2 poor photos. (P.B.)

438. Tobias, J.M., "Sodium and potassium in insects; larvae, pupae and adults." Proc. Federation Amer. Socs. Experimental Biol., vol.7: pp.124-125. 1948. Abstract of a paper given at the societies' annual meeting. Reports Na and K amounts and ratios in the hemolymph of several insects, including: Bombyx mori larvae: Na 14mM, K 40mM, Na/K 0.35, practically no Na in B. mori pupae; not true of Platysamia cecropia or "Philosamia" walkeri. (P.B.)

439. Valle, A., "Preliminary data on the chromosome cycle of Lycaeides idas L." Experimentia, vol.4: pp.388-389. 15 Oct. 1948. Author is studying problem of lycaenid females with thin coat of blue scales on wings, making them appear like males. Preliminary studies in spermatogenesis seem to show differences in chromosome number and irregularities in mitosis and meiosis. Suggests that unbalanced chromosome sets produced in this way may upset sex-determining gene balance, causing the intersexes. (P.B.)

440. Verhey, C.J., "Faunistische aanteekeningen over Lepidoptera." (Faunistic notes on L., in Netherlands). (In Dutch). Entom. Berichten, vol.12: p.252. 1 July 1948 (A.D.)

441. Warren, B.C.S., "On the Race of Erebia epiphron indigenous in the British Isles." Entomologist, vol. 81: pp.181-186. Aug. 1948. Concludes that English race should be known as aetherius, with the Scotch race a quadrinomial - form memnon.

11. The Butterflies of the District of Columbia and Vicinity; by Austin H. Clark*

The deceptively succinct title of this work might well lead one not acquainted with it to presume incorrectly that it was simply a list of the species of butterflies observed in the territory surrounding the nation's capital, with at most a few annotations. In the decade and a half since its publication this book has become a classic, well-known and widely admired. As a regional list it was compiled with great attention to completeness, based on nearly a quarter of a century of the author's personal observations and collecting in the environs of Washington, on previously made collections, and on a thorough canvassing of the literature. Furthermore, a list of species of probable or possible occurrence is appended, the likelihood of their being found in the District indicated, and these doubtful species illustrated along with those of known occurrence.

"The District Butterflies", as it is often called, exceeds by far the scope of utility of a simple regional list. The District of Columbia, located as it is between the elbows of northern and southern faunal elements, receives many nudgings from both, and an account of its butterflies is simultaneously an enumeration of nearly the whole butterfly fauna east of the Mississippi. Its plates are perhaps the best photographs of eastern butterflies available to the student. These alone would make it an invaluable reference tool.

The present review is too limited in size adequately to describe the merits of Dr. Clark's treatise and may only highlight a few of the interesting features it contains. An introduction of 61 pages carefully and entertainingly covers such intriguing subjects as: Habitats, the Succession of Butterflies, Pressure of Population, Butterflies and Storms, Extirpation of one Butterfly by Another, Observations on Butterfly Migrations, Suggestions for Studying Butterflies. After the systematic account there follows a table of seasonal occurrences of District butterflies and a well-illustrated discussion of experiments on the unexplained effects of contact exposure of film to the wings of various species of butterflies. The systematic list itself is replete with observations on habits, life histories, variation in numbers, variation within the species and much other information. Keys for identification are included and, something rarely done but most important, as full data as known accompany each specimen illustrated.

It is difficult to criticise this work, as one cannot help feeling admiration for it. A legitimate complaint might be the general lack of references and bibliography.

Dr. Clark has given lepidopterists, particularly those of the eastern United States, a valuable study aid and a model of thoroughness and accurate presentation.

Harry K. Clench

*Pp.ix, 337; 64 plates. 1932. U.S. Nat. Museum Bull. 157.

17. Supplementary Notes on John Abbot

In reference to the John Abbot autobiography (Lep. News II: 28-30), Mrs. Elsa G. Allen of Cornell University kindly brought to our attention several articles in the ornithological periodical The Auk. The most recent was Mrs. Allen's "A Third Set of John Abbot Bird Drawings" (Auk 59: 563-571; 1942), in which she reports on two unpublished volumes in the British Museum.

The first set of Abbot's bird drawings, at the Boston Society of Natural History, was described by Dr. Walter Faxon (Auk 13: 204-215; 1896). Samuel N. Rhoads (Auk 35: 271-286;1918) reported another group in the Wymberley Jones de Renne Georgia Library (now part of the University of Georgia). Of special interest, however, in filling out for News readers the facts about Abbot was Anna Stowell Bassett's "Some Georgia Records of John Abbot, Naturalist" (Auk 55: 244-254; 1938). Mrs. Bassett made an intensive search into old state and county records in Georgia and found a number of enlightening facts about Abbot. She refutes the contention of previous authors that Abbot returned to England in 1810, and states that he remained in the U.S.A. at least until 1839 and probably for the rest of his life.

Records in Burke County revealed that a John Abbot married Penelope Warren, and that a son, John Abbot, Jr., was born in 1779. Abbot was apparently a soldier in the Revolutionary War for several years, although the dates of his enlistment and discharge are not known. He was given a tract of land in Washington County in 1784 as bounty for his military service, and may have sold this to furnish his home in Burke County. In spite of conclusions we drew from Abbot's obviously poor grammar, it may be true that his profession was in part teaching, since a legal paper in 1787 described Abbot as "Schoolmaster". Screven County, the place usually considered to have been Abbot's home for many years, was formed by uniting Burke and another county in 1793, and the town where he lived, Jacksonborough, has long since ceased to exist. In 1806 Abbot and his son are listed in Savannah tax-rolls. The last record of him was in 1839. The document was a simple will, leaving all his property to his friend William E. McElveen. Mrs. Bassett gives evidence that Abbot's burial place is probably in the family cemetery on the McElveen estate near Meldrim, Georgia.

We are indebted to Mrs. Allen for calling our attention to these important articles. It appears that, while these papers in The Auk yield new details concerning Abbot's later years, the autobiographical notes published for the first time in the News remain almost the only positive information on Abbot's early life known to exist.

J.E.R.

NOTICES BY MEMBERS

JAPANESE BUTTERFLIES OFFERED in exchange for American species. Esp. interested in Lycaenidae, Satyridae, Nymphalidae. S. Murayama, Shinjocho 744, Ibaraki-shi, Osaka-Fu, JAPAN.

WANTED FOR CASH: Speyeria diana and S. leto, female specimens with full data. J.A. Evey, Benson, Ill.

Offer FRENCH BUTTERFLIES and MOTHS in papers in exchange for exotic ones except Microlepidoptera. F. Gaillard, 5 Cité du Midi 5, Paris 18, FRANCE.

For sale: over 500 STRYMON from all over North America collected over 17 yrs., at 6¢ each. Also other groups, such as Catocala, skippers, and 100 mostly So. Fla. specimens at 8¢ each. D.F. Berry, Box 146, Orlando, Fla.

Wanted:Argynninae,Papilionidae,diurnal swamp-loving moths. Offer in exchange RARE HUNGARIAN LEPIDOPTERA of any group. Dr. L. Gozmány, Budapest XII, Györi ut 1. II. 14., HUNGARY.

PAPILIO ARISTODEMUS PONCEANA for sale and exchange. Also all other south Florida and Florida Keys Lepidoptera for exchange. Write: H.L. King, 4618 Abercorn St., Savannah, Ga.

DANISH LEPIDOPTERA offered in exchange for papered Rhopalocera, Sphingidae, Arctiidae. A.Andersen, Odensegade F,Ø,Copenhagen,DENMARK.

Wanted immediately: All species of the genus ANNAPHILA Grt. and forms of AXENUS ARVALIS Grt. Accurate ecological data desired. Offer in exchange Phalaenidae of S. Calif. & living pupae of Hemileuca nevadensis californica Wgt. C.I. Smith, 161 So. 16th St., Apt. 1-B, Richmond, California.

WANTED: Wasps(Hymenoptera: Vespoidea,Sphecoidea,Chrysidoidea), particularly Psammocharidae (Spider-Wasps) and Mutillidae(Velvet "Ants"), of the world. Will collect Lepidoptera or other insects in exchange. David G. Shappirio, 4811 17th St., N.W. Washington 11, D.C.

Wanted from collectors or museums: any material of PEREUTE, ARGHONIAS and LEODONTA (Pieridae), for determination and distributional data to be used in revisions. It will be returned promptly and handled carefully. Please write before sending shipment. F.M. Brown, 326 Burns Bldg., Colorado Springs, Colorado.

WANTED: for taxonomic study, any U.S. species of Hesperioid genus MEGATHYMUS. I have for exchange many species of North American Macrolepidoptera. Paul R. Ehrlich, 538 Academy St., Maplewood, New Jersey.

Named RHOPALOCERA & partially named HETEROCERA & MICROLEPIDOPTERA offered in exchange for Microlepidoptera of South Asia. Collections of such Microlepidoptera also solicited for identification. Dr. A. Diakonoff, Zoölogisch Museum, Buitenzorg, Java, D.E.I.

SPEYERIA DIANA and many other scarce Lepidoptera available for exchange for desired spp., esp. of Papilio, Megathymus, Sphingidae, etc. William F. Duhlmeier, 2535 Indian Mound Ave., Norwood 12, Ohio.

In exchange for Philotes of the world, MY ENTIRE COLLECTION of 5,000 specimens of western Lepidoptera. Will send list of check list nos. available. Let me know your localities. R.H. Mattoni, V-29 Terr. War Housing, Richmond, Cal.

ENTOMOLOGICAL EQUIPMENT FOR SALE. Quality material at quantity price. Write for catalog. Bio Metal Associates, P.O. Box 346, Beverly Hills, California.

BUTTERFLIES of the BELGIAN CONGO and BELGIUM offered in exchange for North American butterflies (except Hesperiidae). S.G. Kiriakoff, 14 Universiteitsstraat, Ghent, BELGIUM.

FOR SALE: common MEXICAN BUTTERFLIES in good condition. Supply limited,order early. Write: L.S. Phillips, Loyola University Medical School, 706 S. Wolcott Ave., Chicago, Ill.

WISH TO PURCHASE to fill out sets:

Proc. Ent. Soc. Philadelphia: vols.1-6
Proc. California Academy Sciences: vols.1-7
Bull. Buffalo Soc. Nat. Sciences: vols.1-5
Psyche: vols. 11, 13, 15 (pref. unbound)
Proc. Acad. Nat. Sci. Philadelphia: vols.1-20
Trans. Am. Ent. Soc.: vols.1-10
The Entomologist: vol.1

C.F. dos Passos, Washington Corners, Mendham, N.J.

Limited number of choice perfect Oeneis jutta reducta and Erebia magdalena for exchange for other Alpines and Arctics, esp. O. macouni, nevadensis, and ivallda.
A.G. Lauck, 2716 Grandview Ave., Alton, Ill.

LIVING MATERIAL

WISH TO BUY about six living MOLE CRICKETS (Gryllotalpa hexadactyla) from field entomologists. Urgently needed for research. William G. Nutting, Biological Labs., Harvard University, Cambridge 38, Mass.

LIVING COCOONS of Lepidoptera from India for sale as follows: Attacus atlas -50¢, A. cynthia -12¢, A. edwardsi -50¢, Antheraea mylitta -40¢, Leopa katinka -25¢, Caligula cachara -25¢,each. Send with U.S.A. orders permit from U.S. Dept. of Agriculture. Himalayan Butterfly Co., Shillong, Khasi Hills, INDIA.

Living pupae of Eacles imperialis and Papilio troilus offered in exchange for other specimens, including papered Papilio, or for sale at 25¢ each. Mrs. Vonta P. Hynes, 152 Meachem Ave., Battle Creek, Mich.

FOR SALE: cocoons of Telea polyphemus, Callosamia promethea (10¢ ea.,$1 doz.), Automeris io (15¢ ea.,$1.60 doz.), Actias luna (25¢ ea., $2.50 doz.), Attacus cynthia (20¢ ea.), Anisota rubicunda (5¢ ea., 50¢ doz.), Ancana mylitta (50¢ ea.). Bombyx mori eggs (50¢/100). E.A. Ferguson,1213 Bellflower,S.W.,Canton,Ohio.

WANTED: Living pupae of any species of Colias, esp. eurytheme-philodice, in exchange or for purchase. Carl W. Gottschalk, Harvard Medical School, 25 Shattuck St., Boston 15, Mass.

QUESTIONS AND ANSWERS

Q. "What is the best method to recover caterpillars and pupae which were preserved in alcohol and accidentally allowed to dry up later?"

A. The best way I know is to warm in a detergent solution: I use Tergitol 7 0.1% with KOH not over 0.5% in water, put in the solution cold and slowly warm to steaming hot; then transfer to 50% and then 70% alcohol. The body will plump out but not usually retain color, and sometimes collapses again or even goes to pieces. I have used it only for larvae; keep the pupae dry if they have gone dry.

Q. "Who was the first to use the male genitalia for classification? I have heard that it was Scudder and Burgess, working on skippers."

A. I don't know. Scudder was far from the first. I have traced the terms tegmen (tegumen) and valve back to Hübner (Lepidopterologische Zuträge, p.26, 1820). The earliest systematic use I know of was by Lederer in the "Noctuinen Europas" (1857) with 30 sketches of valves, and directions (p.6) for breaking off the right valve. Earlier uses were, I think, all casual, such as Stephens' (1830) reference to the very large valves in describing Scotosia.

W.T.M. Forbes

N.J. KUSNEZOV

We recently learned of the passing in Russia, apparently in 1948, of N.J. Kusnezov, the outstanding Russian lepidopterist. Before news of his death reached us we were preparing the review (see p.104) of his important "Revision of the Amber Lepidoptera", and were hoping to establish contact with him. We shall attempt to gather material for a biographic sketch to appear in a later issue of the News.

Peter F. Bellinger, of Yale University, is rendering valuable and much appreciated aid in the task of preparing the News by examining a large number of current scientific journals and abstracting all papers on Lepidoptera. Abstracts in the "Recent Literature on Lepidoptera" section when not initialed are by the News editor. Initials in parentheses following abstracts refer as follows:

(P.B.) = Peter F. Bellinger
(A.D.) = A. Diakonoff
(C.F.dP.) = C.F. dos Passos
(T.S.) = Takashi Shirôzu

There is considerable demand for volume I of the News, and our supply of several numbers is exhausted. Members who have no need for their copies of the first volume will be doing a service in returning them to the editorial office. First, persons or institutions needing that volume to complete their reference file will be cared for. Second, the small income ($1.50) which accrues to the Society from each sale will be returned to the members in a better News.

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ADDITIONS TO THE 1948 MEMBERSHIP LIST

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Börner, Carl (Dr.), Naumburg a.S., 19a. Jenastr. 22, Russian Zone, GERMANY.
BOWMAN, KENNETH, 10240 Wadhurst Rd., Edmonton, Alberta, CANADA.
Brinkman, B.B.,951 Bannock St., Denver 4, Colo.
Chase, Hazel(Mrs.), 272 N.Union St., Galion,Ohio.
Clarke, Louis, 28 W. Elm St.,New Haven 15, Conn.
Common, Ian F.B., Technical Sec'y, Council for Scientific & Industrial Research, Div. of Econ. Ent.,P.O.Box 109, Canberra, A.C.T.,AUSTRALIA.
Harlick, Robert M.,1269 24th Ave.,San Francisco, Calif.
Murayama, S.,Shinjocho 744, Ibaraki-hi,Osaka-Fu, JAPAN. RHOP: esp. Lycaenidae, Satyridae, Nymphalidae. Coll. Ex.
Reinthal, Walfried J. (Dr.), 220 W. 18th St., Ada, Oklahoma. LEPID. Biotopical conditions, Geog. Races, Variability. Coll. Ex. Sell.
Rensch, Bernhard (Prof.Dr.), Münster (Westf.), Museum für Naturkunde, Himmelreich-Allee, British Zone, GERMANY.
Sugitani, Iwahiko (Prof.), Shinmachi-Nishiiri, Nakachojya-machi-doori,Kamikyoku,Kyoto,JAPAN.
Toxopeus, L.J. (Dr.), c/o Rijksmuseum van Natuurlijke Historie, Leiden, NETHERLANDS.
van Regteren Altena, C.O. (Dr.), c/o Rijksmuseum van Natuurlijke Historie, Leiden, NETHERLANDS.
Wilson, H.H.,2531 Marin Ave.,Berkeley 8, Calif.
WINANS, WILLIAM W., 505 Loma Vista Drive, Beverly Hills, Calif. LEPID: esp. MACRO. Coll. Ex. Buy. Sell.

THE LEPIDOPTERISTS' NEWS is the monthly periodical of The Lepidopterists' Society. Membership is open to anyone interested in the study of butterflies & moths. The 1949 dues, including subscription to the NEWS, are $2.00 for Regular Members and $4.00 or more for Sustaining Members. Please make remittances payable to : Charles L. Remington.